

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-13. (Canceled)

14. (Currently Amended) Process for modifying the production of carotenoids in a plant, by increasing the production of carotenoids relative to the normal content of carotenoids produced by the plant,

said process comprising transformation of cells of said plants with a vector adapted to increase carotenoid biosynthesis, said vector comprising ~~all or a portion of the nucleotide sequence SEQ ID NO: 1, encoding all or a portion of a nucleotide sequence encoding (1) an enzyme involved in carotenoid synthesis, represented by SEQ ID NO: 2 or (2) a protein having equivalent enzymatic activity to the enzyme represented by SEQ ID NO: 2, said nucleotide sequence being~~ preceded by a promotor, such that the vector can generate mRNA in the plant cells,

wherein production of carotenoids in said plant is increased.

15. (Currently Amended) Process for producing carotenoids in a plant cell, or eukaryotic or prokaryotic cell,

said process comprising transformation of at least one plant, eukaryotic or prokaryotic cell with a vector adapted to increase carotenoid biosynthesis, said vector comprising ~~all or a portion of the nucleotide sequence SEQ ID NO: 1, encoding all or a portion of a nucleotide sequence encoding (1) an enzyme involved in carotenoid synthesis, represented by SEQ ID NO: 2 or (2) a protein having equivalent enzymatic activity to the enzyme represented by SEQ ID NO: 2, said nucleotide sequence being~~ preceded by a promotor, such that the vector can generate mRNA in said at least one cell,

wherein production of carotenoids in said plant, eukaryotic or prokaryotic cell is increased.

16-19. (Canceled)

20. (Previously Presented) The process according to claim 14, wherein said vector comprises a nucleotide sequence encoding SEQ ID NO: 2.

21. (Currently Amended) The process according to claim 14, wherein said vector comprises a nucleotide sequence having at least ~~70~~ 93% homology with the coding region of SEQ ID NO: 1, said coding region being at nucleotides 130 to 1182 of SEQ ID NO: 1.

22-23. (Canceled)

24. (Previously Presented) The process according to claim 21, wherein said vector comprises a nucleotide sequence having at least 95% homology with said coding region of SEQ ID NO: 1.

25. (Previously Presented) The process according to claim 15, wherein said vector comprises a nucleotide sequence encoding SEQ ID NO: 2.

26. (Currently Amended) The process according to claim 15, wherein said vector comprises a nucleotide sequence having at least ~~70~~ 93% homology with the coding region of SEQ ID NO: 1, said coding region being at nucleotides 130 to 1182 of SEQ ID NO: 1.

27-28. (Canceled)

29. (Previously Presented) The process according to claim 26, wherein said vector comprises a nucleotide sequence having at least 95% homology with said coding region of SEQ ID NO: 1.